

## **REMARKS**

### **I. Introduction**

The Office Action mailed on March 23, 2007 has been carefully studied, and in view of the foregoing amendments and the following remarks, reconsideration and allowance of this application are most respectfully requested.

Upon entry of the present amendment, claims 13 and 15-25 will be pending in the present application. By the present amendment, claim 14 has been cancelled, claims 13 and 15 have been amended, and new claims 20-25 have been added. No new matter has been added herein by the present amendment, as support thereof can be found in now-cancelled claim 14, and pending claim 16.

In view of the foregoing amendments and the following remarks, Applicant respectfully submits that the claims are now in condition for allowance. Applicant points out that the amendments made herein are made without prejudice to the future prosecution of such cancelled, amended or modified subject matter in a related divisional, continuation or continuation-in-part application.

### **II. Rejection of Claims 13-19 Under 35 U.S.C. § 102(b)**

Claim 13 stands rejected under 35 U.S.C. § 102(b) as being anticipated by any one of U.S. Patent No. 5,183,629 ("Canat et al."), or U.S. Patent No. 6,385,271 ("Nylund"), or U.S. Patent No. 6,400,788 ("Hirano et al."). Claims 14-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by either one of Nylund or Hirano et al. Claims 18-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nylund. It is respectfully submitted that these rejections should be withdrawn for at least the following reasons.

To anticipate a claim, the reference must disclose each and every element of the claimed invention. *Verdergaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). Applicants respectfully submit that none of the cited documents disclose or suggest each and every element of the currently pending

claims.

Claim 13 has been amended herein to include, *inter alia*, the limitations of previously pending claim 14, which depended directly from claim 13. Thus, it is respectfully submitted that the rejections of claim 13 under 35 U.S.C. § 102(b), and thus all rejections based on Canat et al., have been overcome and should therefore be withdrawn.

Nylund is directed to a fuel assembly for a pressurized-water nuclear reactor. According to Nylund, the assembly includes "a number of fuel rods (2) retained into a bundle by means of spacers (3) between a top nozzle (4) and a bottom nozzle (5) which includes a plurality of openings for a coolant flow to the fuel rods (2). A partial fuel box (7) is providing at at least the lower part of the fuel assembly and extending from the bottom nozzle (5) and at least up past the lowermost ordinary spacer (3) of the bundle." Nylund, abstract. According to Nylund, inside the lower fuel box 7, the spacers 3 are replaced by partial spacers 10 and 11, the structures of which are shown in Figs. 3 and 4 in Nylund. Nylund also discloses that "[i]n the spacer 10 only the outer fuel rods 2 and the guide tubes 13 are fixed in a lattice-work 14 ... [,and in the spacer 11] only the centrally located fuel rods 2 and guide tubes 13 of the bundle are fixed in a lattice-work 15." Nylund, col. 2, lines 55-62.

Hirano et al. is directed to "a fuel assembly, and more particularly to a fuel assembly, including fuel spacers, used for a boiling water reactor." Hirano et al., col. 1, lines 4-6. According to Hirano et al., the assembly includes fuel spacers with "water rod holding members 12, each being formed into a  $\Omega$ -shape in transverse cross-section, which are welded to those cells, which are arranged in the innermost peripheral region of the square lattice array, of the cells 9, for holding the water rods 3 in the radial and axial directions." Hirano et al., col. 13, lines 21-26 (emphasis added).

In contrast to the teachings of Nylund or Hirano et al., the assembly of the present invention, as currently recited in independent claim 13 in amended form, includes "wherein the lattice reinforcing device does not extend between peripheral rods," which had been previously recited in dependent claim 14. Claims 15-19

ultimately depend from claim 13, and thus include this claim limitation as well.

Neither Nylund nor Hirano et al. teach or suggest this claim limitation of “wherein the lattice reinforcing device does not extend between peripheral rods.” In rejecting claim 14 as anticipated by Nylund or Hirano et al., the Office Action simply states that “Nylund shows in Fig. 4 that partial spacer 11 does not enclose the peripheral rods and the adjacent layer of rods,” and that “Hirano et al. show, e.g., in Fig. 7 that his water holding member : a) does not enclose the peripheral rods and the adjacent layer of rods ....” However, “enclosing” and “extending between” are not the same thing. According to Nylund, “Fig. 4 shows the central partial spacer 11 ... [, wherein c]ertain of the crossing plates 16 forming this central lattice 15 are extended to the walls of the surrounding fuel box 7 and fixed therein as support for the walls.” Nylund, col. 2, lines 60-65 (emphasis added); see *also* Fig. 4. Thus, the partial spacer 11 does extend between peripheral rods. In Hirano et al., the holding members 12 are in a  $\Omega$ -shape, and are thus not a “lattice reinforcing device.” Furthermore, Hirano et al. does not disclose or suggest “guide tubes for receiving control rods,” or a “lattice reinforcing device being disposed between two spacer grids” as also recited in claim 13.


In regard to new independent claim 20, it has been drafted to incorporate the prior limitations of both previously pending claim 13 and dependent claim 16. New claims 21-25 ultimately depend from claim 20, and thus include its claim limitations as well. In contrast to the teachings of Nylund, the assembly of the present invention, as currently recited in new claim 20, includes “wherein the lattice reinforcing device does not have an arrangement for mixing a cooling fluid that is to flow through the nuclear fuel assembly.” In contrast to the teachings of Hirano et al., the assembly of the present invention, as currently recited in new claim 20, includes “guide tubes for receiving control rods,” and a “lattice reinforcing device being disposed between two spacer grids.”

**III. Conclusion**

It is respectfully submitted that the pending claims are now allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited. If for any reason the Examiner believes that prosecution of this application would be advanced by contact with the Applicant's attorney, the Examiner is invited to contact the undersigned at the telephone number given below.

Respectfully submitted,

Dated: September 24, 2007

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